

CHAPTER 10: Documentation

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10.1 General

Each employee having charge of engineering and inspection work should be familiar with these instructions and should carefully study them in connection with the Standard Specifications in order that uniform methods and results will prevail among all Regions of UDOT.

Employees affiliated with construction operations are charged with the responsibility to:

- Maintain accurate, timely and complete records of work accomplished by the Contractor.
- Document and verify items in accordance with the Contract.
- Process timely all contract payments.
- Represent the Department by establishing a good partnering relationship and treating everyone like a customer.

10.2 Project Filing

1. Set Up Files in Separate Sections.
2. Combine files for small projects.

Section 1 Correspondence

File #

1. Preconstruction
 - 1-1 UDOT
 - 1-2 Contractor
 - 1-3 Internal
 - 1-4 External
 - 1-5 Project Inspection Reports/FHWA Inspections/Bi-Monthly Process Reviews
 - 1-6 Miscellaneous

Section 2 Change Orders

File #

- 2-1 C.O. # 1
- 2-2 C.O. # 2, etc.

- Section 3 Estimates
File #
3-1 Detail Estimate & Bid Abstract
3-2 Partial Estimates & Final Estimate
3-3 Stockpile Invoices & Certified Paid Invoices
- Section 4 Project Reports
File most current date in front
File #
4-1 Monthly Contract Status of Time/Progress Reports
4-2 Weekly Planning Schedule
4-3 CPM Schedule
4-4 Diaries (Inspectors' Reports)
- Section 5 Subcontract Requests
Use Form [C-115](#) State Funds
Use Form [C-115](#) & [C-116](#) Federal Aid Projects
File #
5-1 All Subcontract Requests
- Section 6 Materials
Make material specific files
File #
6-1 Project Material Certifications /Testing Requirements
6-2 Scale/Meter Certifications
6-3 Price Reductions
6-4 PG-64-34
6-5 Concrete, etc.
- Section 7 Safety
File #
7-1 OCIP (Owner Controlled Insurance Program)
7-2 Traffic Control Plan
7-3 Safety Inspections
7-4 Contractor's Claim Procedure
- Section 8 Utility/Local Government Agreements
Separate file for each entity
File #
8-1 Utah Power
8-2 Mt. Fuel, etc.
- Section 9 Environmental/Right of Way Agreements/Maps
File #
9-1 Environmental Clearances

9-2 Right of Way

Section 10 Shop Drawing
Separate file for each drawing

File #

10-1

10-2 etc.

Section 11 Civil Rights/Training

File #

11-1 EEO Cover sheet and Complaint Procedure

11-2 DBE Commitment

11-3 Training Commitment Letter and Monthly Training Reports ([C-138](#))

11-4 Trainee Registrations

11-5 Form [PR-1391](#) (Submit once a year in July)

11-6 EEO/Harassment Rosters

Section 12 Payrolls

File #

12-1 Request for Wage Rates

12-2 Labor/EEO Interviews

12-3 Contractor's Payrolls

12-4 Subcontractor's Payrolls

10.3 Project Diaries or Electronic Field Books*** Items entered in Electronic Field Books**

1. * Daily diaries are written/recorded by assigned personnel
2. Make diary entries in ink
3. Transcribe project diary cassette tapes weekly, if recorded tapes are used
4. * Essential items needed in the diary are:
 - A. On-site weather and temperature
 - B. Explanation for work done in conflict with weather restrictions
 - C. Discussions with Contractor or representatives
 - D. Decisions made on-site and personnel involved
 - E. Safety inspections and instructions
 - F. Official visitors and inspections
 - G. Rejected work or materials with explanation, who was informed, why rejected
 - H. Length and cause of any delay
 - I. Extra time assessments with explanations

- J. Time and explanation of project suspension, or time work is resumed
- K. Work completed
- L. Unusual conditions, ie; high water, bridge failures, slides
- M. Contract time charged
- N. Personnel - contractor and subcontractor
- O. Equipment
- P. Time start and end of each working day and non-working day
- Q. Documentation of environmental and mitigation compliance

10.4 Field Books

Field books include electronic (PDA's), commercially and manually bound books. Manually bound books are computer-generated reports using approved construction documentation forms.

1. Label front of field books with project name and project number and book number
2. Number field books and diaries in consecutive order, i.e; 1,2,3, on cover and on top (*Example B*)
3. Complete top portion of inside cover
4. Complete index with bid item number, bid item description and corresponding page numbers
5. Page headings:
 - A Bid item number, exact bid item description, change order number if applicable
 - B. Continuous pages of documentation for one bid item may have just the bid item number and continued (Cont'd) written on the following pages

10.5 DOCUMENTATION

1. Original Source Documentation is a recorded pay quantity validated by personnel inspecting same
2. **Paid Quantities** must be supported by Original Source Documentation
3. **"Verified By"** means this item is completed in accordance with Plans and Specifications
4. **Leave blank pages** between bid items for additions, corrections, drawings and explanations

5. **Review** Special Provisions, Plans, Supplemental Specifications, Standard Specifications and Standard Drawings ([Standard Specification 00727](#)) before preparing field books for Method of Measurement/Basis of Payment
6. Entries
 - A. Use ink or 2H pencil or harder
 - B. Standard symbols and abbreviations in [Appendix A](#)
 - C. Plain lettering
 - D. Consistent with UDOT procedures (Refer to examples in [Appendix B](#))
 - E. Never erase original source documentation or tear out field book pages
 1. Line through error with one line, write correction above, initial and date
 2. Voided pages need explanation, date, initials and cross-reference to correct documentation
 3. Date and initial explanations
 4. Underline pay quantities in RED as they are entered into project accounting
 - F. Placement date and location
 - G. Unit of measurement
 - H. "Verified by" and initials of inspector
 - I. Show calculations
 1. Need "Calculated By" and date and "Checked By" and date
7. Eliminated Items (Not eliminated by change order)
 - A. Document item "not required" in field book
 - B. Enter book and page number in ledger
8. Estimated Quantities
 - A. Document in field book
 - B. Enter book and page numbers in ledger
 - C. Cannot be used as final pay quantity

10.6 UNITS OF MEASUREMENTS

1. Calculate all quantities to 2 decimals
2. Calendar Day (Cal. Day)
 - A. Document daily
3. Device Day

- A. Document daily
- 4. Each
 - A. Explain partial payments
- 5. Acre
 - A. Enter measurements
 - B. Show calculations
 - C. Drawing optional
- 6. Hour
 - A. Shift time optional
- 7. Pound
 - A. Pay certified quantities per Standard Drawings
 - B. Document and calculate designs altered in the field with explanation
- 8. M Gallon (1000 gals.)
 - A. Pay by certified meter
 - B. Pay by weight converted to M Gallons
 - C. Pay by tank measurement - Must show measurements and calculations
- 9. Gallons
 - A. Pay by certified meter
 - B. Pay by weight
 - 1. Pay by tank measurement - Must show measurements and calculations
- 10. Linear Foot
 - A. Measure according to UDOT procedures
 - 1. Pipe Culvert
 - 2. Chain Link Fence
 - 3. Concrete Curb and Gutter
- 11. Linear Foot Day (ft*d)
 - A. Document Daily
- 12. Lump Sum (Lump)
 - A. May be separated into sections of completion for payment
 - 1. Mobilization is automatically calculated by PDBS project accounting.

2. All other auto calculated items can be switched to manual calculation if requested by Resident Engineer
 - B. Document daily quantity placed to compare with estimated bid quantity and to establish quantity for non-specification material price reduction
 - C. Quantity is changed due to design revision:
 1. No change order required if calculation method is in Special Provisions or Standard Specifications
 2. Establish unit price by dividing the original bid item estimated quantity into the Original Bid Price
 - a. Make a new line item in project accounting to pay additional quantity
13. Ton (Standard Specifications 01280)
 - A. Ton measurement
 - B. Weigh Tickets
 1. Project number
 2. Date
 3. Bid item number or description
 4. Pit name
 5. Truck number
 6. Initials of weigh person, if required
 7. Initials of person receiving material on project
 8. Total tickets daily. Do not use 'heat sensitive' tape
 9. Voided tickets
 - a. Provide explanation
 - b. Initial & date on ticket
 10. Partial load deduction or wasted material
 - a. Write reason for deduction
 - b. Initial and date ticket
 11. Tare Weights
 12. Overweight loads
 - a. Notify UHP if you suspect overloading
 13. Identify stations or locations placed on first and last tickets daily
 - C. Suppliers' Invoices (Asphalt Cement, Emulsified Asphalts, Hydrated Lime)
 1. Must be legible
 2. Project number
 3. Date
 4. Bid item number or exact bid item description
 5. Initials of person receiving material on project
 - a. "Received by" and date

6. Show calculations for pay quantity, date & initial
 - a. Partially used loads - attach weigh back ticket, or calculate
 - b. Total load used - note on ticket 'complete load used'
- D. Stored Bituminous Materials on Project
 1. Prior to delivery, ensure tank is empty or dip tank to establish beginning inventory
 2. Dip tank contents at beginning and ending of each day
 3. Document in field book
 4. Compare daily measured quantity with daily average ignition tests results
 5. Verify delivery vehicle is full when it arrives and empty when it leaves the project when paying for material by invoice
 - a. Explain any difference on the face of invoice
 - b. Spot check deliveries by weighing vehicle before and after delivery
- E. Maintain lab reports to substantiate weights used to calculate pay quantities for Asphalt Concrete Pavement, Plant Mix Seal Courses, Borrow, Granular Borrow, Untreated Base Course and conversion of unit of measurement for pay quantities, etc.
 1. Mass into Volume Specific Gravity
 - a. Dry bulk
 - b. Saturated surface dry
 - c. Apparent
 - d. Rice density
14. Square Foot Day ($\text{ft}^2 \text{ D}$)
 - A. Document daily
15. Square Yard (yd^2)
 - A. Measured or surveyed areas
 1. Concrete Driveway Flared
 2. Remove Concrete Driveway
 - B. May need drawings
 - C. Show calculations
 - D. Survey information in same book, same page with pay quantity or
 1. Cross reference book and page numbers of survey data and pay quantity.
16. Cubic Yard (yd^3)
 - A. Measured or surveyed areas
 1. Roadway Excavation Example Appendix B-16
 2. Concrete Small Structures Example Appendix B-16b

- B. May need drawings
 - C. Show calculations
 - D. Use lab reports of unit weight test results to convert material weight/cubic meters to pay quantity
 - E. Survey information in same book, same page with pay quantity or
 - 1. Cross reference book and page number of survey data and pay quantity
17. Inch-foot (in-ft) Example Appendix B-17
- A Measure depth and length
 - B. Depth may be determined by Special Provisions or Specifications
18. Parcel Example Appendix B-18
- A Removal item
 - B. May be separated into sections for partial payment

10.7 SCALE & METER CERTIFICATION

[Standard Specification 01280 Part 1.4 - 1.8](#)

- 1. Certification by the Department of Agriculture, Division of Weights & Measures
 - A. Copy of certification in project file
- 2. Meter certification by UDOT Central Lab, or approved calibration record
 - A. Copy of certification in project file

10.8 ASPHALT, CEMENT & CONCRETE PLANTS CERTIFICATION

- 1. Refer to Materials Manual and [Quality Management Plans](#)

10.9 UTILITY AND RAILROAD RECORDS

- 1. Contract Records
 - A Each utility or railroad file should contain:
 - 1. Copy of the proposed agreement, which includes plans for the work to be done. (Provided by Region Utility Coordinator)
 - 2. Copy of the signed agreement. (Provided by Region Utility Coordinator)

3. Copy of the "Letter of Authorization to Proceed" sent to the utility company or railroad. (Provided by Region Utility Coordinator)
 4. Any other documentation and/or correspondence involving that particular utility or railroad agreement.
 - B. The Resident Engineer maintains daily records of work accomplished by the Utility or Railroad Company. All data is supported by entries on [Form C-104](#), Weekly Force Account Record or on an approved form to be furnished by the utility or Railroad Company. All entries on the Form C-104, or a company form require signatures of both a representative of the Resident Engineer and a representative of the utility or Railroad Company performing the work. Work accomplished for lump sum agreements does not require daily records but is documented in the same manner as other lump sum items.
 - C. An accurate record of all materials used in conjunction with the utility or railroad relocation is necessary for documentation of billings and change orders. Only materials incorporated into or used up on a project are eligible for reimbursement.
 - D. When it is determined that materials removed by the utility or railroad company have no salvage value, a statement to that effect is signed by both a representative of the utility or railroad company and the Resident Engineer. (See [Form C-193A](#))
2. Partial Billings
- A. Upon receipt of the utility or railroad company's billing, the Resident Engineer verifies the work being billed for the materials and equipment used, and hours worked.
 - B. The Resident Engineer's signature and date signed, "Approved" or "Not Approved..." or "Partially Approved per the Attached Memo", appears on the page showing the total amount of the billing. If the billing is "Not Approved..." or "Partially Approved...", a memo, from the Resident Engineer, stating the reasons why is included with the billing.

It is noted that the Resident Engineer is not expected to verify those costs, which the utility or railroad company may claim, which are not a part of the actual on-site relocation work. Utility or railroad company costs such as "Costs of Right of Way," Preliminary Engineering, Overhead, etc., which cannot be verified by on-site

inspection by the Resident Engineer will be verified by the department's Office of Internal Audit.

- C. Two signed copies of the utility or railroad company billing will then be forwarded to the Contracts, Estimates and Agreements Office for further processing.
- D. For contracts that contain the specification where Contractors add the estimated amount for Railroad flagging into their mobilization bid, the Resident Engineer will credit these flagging charges out on the estimates as the project progresses.

3. Final Billing

- A. In some instances, the work is accomplished on a "lump-sum price" basis. When this is the case, the Resident Engineer is required to certify that the work was completed in accordance with the terms of the agreement.
- B. The "final billing" for the utility or railroad agreement is processed in the same manner as the partial billings with the exception that it is forwarded through the Region Contracts Specialist, to the Contracts Estimates and Agreements Manager and should be accompanied by the following:
 - 1. All field records
 - 2. Weekly records ([Form C-104](#)) If there are no daily records, a letter from the Resident Engineer identifying the reasons for the lack of daily records is required.
 - 3. Completed Utility Fiscal Review Report, [Form C-193 pg.2](#)
 - 4. The completed Salvage Credit Report ([Form C-193A](#))
 - a. The status of the salvaged material, i.e., was it scrapped, junked, sent to storage, etc., is to be included in the space provided on the Salvage Credit Report form.
 - 5. Any other documentation pertaining to the project.
 - 6. A Change Order is required for any Scope of Work change.

NOTE:

There will be instances where the utility or railroad company billing will be received several months after the final estimate on the highway project is submitted. Therefore, it will be necessary for the Resident Engineer to hold all records regarding utility work pending receipt of the utility of railroad company billing.

4. Fiscal Review Report [Form C-193](#)

Instructions for completion of the "Utility Fiscal Review Report"

- A. Page (1) will be, completed by the Contracts, Estimates and Agreements Office.
- B. Page (2) will be, completed by the Resident Engineer. Overruns or underruns exceeding 10% of the agreement amount, per line item, are to be explained on page (2) in the "Major Differences Should Be Explained" section. (Change order required for changes in scope of work)
 - 1. (a) Starting and completion dates
 - 2. 2(ai) self-explanatory if not applicable to this particular project indicate in the space provided with an "N/A".
 - 3. Information for the "Estimated" column comes from the signed agreement. If the differences are 10% or more, per line item, an explanation is required below. Label the explanations with the corresponding letter. Changes in major materials, is considered a Scope of Work change and a Change Order is required.
 - 4. Record any change order by number and total amount subtracting or adding them to reflect their effect on the final total. (If there are more than two change orders, add them into the list and reduce the number of lines in the bottom section to allow for the additional space needed.)
- C. The bottom section is, completed by the Resident Engineer. If the billings reflect information differently than the record kept by the Resident Engineer, the differences are shown here.
- D. The [Form C-193](#) is, signed by both the Resident Engineer and the Region Construction Engineer. The Utility Fiscal Review Report accompanies all utility and railroad final billings forwarded through the Region to the Contracts, Estimates & Agreements Manager for approval and payment.

10.10 TRUCK HAULING

1. Refer to [Standard Specification 00820 Part 1.18 - 1.19](#)

10.11 PHOTOGRAPHS & VIDEOS

1. Documents "Acts of God" or unusual occurrences or actual conditions to support "Changed Condition" allegations
2. Document accidents; personal injury, death or property damage
3. Identify by date, project number, location on project site, time, weather conditions on site
4. Initials and date of recorder
5. Maintain in project files
5. Document condition of basements, houses, yards before construction

10.12 STATUS OF CONTRACT TIME AND MONTHLY PROGRESS REPORT

1. PREPARE REPORT
 - A Refer to Project Accounting
2. REPORT DISTRIBUTION
 - A Required every month until the project is 100% complete
 - B. Include in Final packet. Must be signed by Contractor and Resident Engineer. (Original or fax copy)
3. TIME CHARGES - [Standard Specification 00555 Part 1.12](#)
 - A Contract time starts 10 calendar days after date of "Notice to Proceed" unless changed by specification. The contract date is the date of the "Notice to Proceed". (Example Notice to Proceed" (contract) date is July 5, 1998 - Time charges begin July 15, 1998)
 - B. Working day contracts - Refer to [Standard Specification 00570](#)
 - C. Calendar day contracts - Refer to [Standard Specification 00570](#)
 - D. Substantial Completions - Refer to [Standard Specification 00555 Part 1.12 D.](#)
 - E. Final Acceptance/Physical completion- Refer to [Standard Specification 00555 Part 1.12E](#)
 - F. Contract Completion - Refer to [Standard Specification 00555 Part 1.12F](#)
4. PARTIAL OR FULL SUSPENSION - CSI Specification 00555 Part 1.15

- A. Enter in "Comments" section dates and reasons for placing or removing project from partial or full suspension
- B. If partial time other than 0.15 per day is charged, attach separate sheet with documentation supporting partial time charged

10.13 PARTIAL ESTIMATES

1. PREPARATION

- A. Refer to Project Accounting for data input instructions
- B. Partial estimate period coincides with Monthly Progress Report period
- C. Check all calculations before entering quantities in Project Accounting
 - 1. All entries should have "Verified By" initials and placement date
- D. End pay period on predetermined Saturday of month agreed to in Preconstruction meeting
- E. Check Contract Special Provisions for Warranty, Establishment Periods, Incentive/Disincentive payments and Price Reductions, retention, fuel costs adjustments or deductions that should be addressed as work is completed
- F. Interim partial estimate may be prepared if:
 - 1. Amount due is greater than \$100,000.00 and is requested by Contractor in writing

2. PRICE REDUCTIONS

[Form C-106](#) "Price Reduction Notification"

- A. Notify Contractor verbally as soon as possible of price reduction
- B. Complete C-106, attach copy of completed material report and send to the Contractor as soon as the material report is completed
- C. File C-106 in "Price Reduction" File.
 - 1. Use C-106 as documentation to enter in Project Accounting
 - 2. Send copies to Region Material Lab, Region Construction Engineer

3. STOCKPILE PAYMENT

[Standard Specification 01282 Part 1.14](#)

(75% of in place price or invoice amount whichever is less)

- A. Contractor requests stockpile payment for non-perishable materials
 - 1. Invoices shall identify bid item number and description
 - 2. Costs breakdown of labor, equipment and materials of bid item unit for Contractor produced materials
 - a. Resident Engineer certifies these materials have been tested and meets specification
 - 3. Materials must be stored at a site on the project under Resident Engineer approved storage conditions or
 - 4. At an off-site location approved by the Resident Engineer and will be specifically designated for the project by contractor or supplier
 - 5. No payment will be made for value less than \$2,000.00 or if materials will be stored less than 30 calendar days
 - 6. Materials must be certified or on an approved list
- B. Calculations verifying stockpile payment for each bid item will be shown on invoices or
 - 1. On separate calculation sheet with Bid Item number, description, unit, unit price and total dollar amount to be paid
 - 2. Use original bid item number and select 'Stockpile' from dropdown menu in PDBS Project Accounting.
 - 3. Reduce stockpile payment by amount of stockpiled material placed on project
- D. Certified Paid Invoices for Stockpile
 - 1. Within 60 calendar days after date of estimate on which stockpile payment was made,
 - a. Contractor shall furnish certified paid invoices or,
 - b. Certified statement with copy of check showing payment
 - 2. If payment certification is not received within 60 calendar days, deduct stockpile payment on next estimate
- 4. CHANGE ORDERS
 - [MOI 10-16](#)
 - [Standard Specifications 00570 Part 1.2](#)
 - [00725 Part 1.4 - 1.6](#)
 - [00727 Part 1.21](#)
 - [01282 Part 1.1 -1.12](#)
 - Refer to Change Order Procedure for preparation
 - A. Refer to Project Accounting for entering new line items, adjusting estimated quantity on original bid item, elimination of original bid item by change order
 - B. Pay for change order work after change order is fully executed

5. FUEL COST ADJUSTMENTS

[STANDARD SPECIFICATION 01282 Part 1.16 - 1.17](#)

Provision, minimize risk of potential volatile price fluctuations for fuel and bituminous materials that may occur throughout the duration of the contract to Contractor.

- A. By written notice to Resident Engineer, Contractor may invoke these provisions anytime during the contract
- B. Construction Division update price increase/decreases information from the Wall Street Journal
 - 1. Information will be submitted to project office weekly when provisions are invoked
- C. Spreadsheet forms on Forms Disk will be source document. A change order is not necessary
 - 1. [Form C-300](#) Fuel Cost Adjustment Record (English)
 - 2. [Form C-302](#) Bituminous Cost Adjustment Record (English)
- D. Create separate line items "Adjustment for Fuel Cost" or "Adjustment for Bituminous Cost" on estimate to enter dollar amount to pay or deduct

6. PARTNERING

[STANDARD SPECIFICATION 00725 Part 1.3](#)

- A. Prepare change order for first partnering workshop based on actual costs supported by invoices to pay contractor
 - 1. Original C-100 will contain statement "Costs will be paid by invoices to be shared equally between UDOT and Contractor. Additional payment for follow-up workshops for the duration of the contract will be documented by invoices and paid according to the terms of this change order." Change Order File will contain all documentation.
 - 2. Create a separate line item on estimate

7. WARRANTY, GUARANTY, ESTABLISHMENT & EVALUATION PERIODS

Document on Time Entry/Progress Report

Attorney General's Office advises all monies held for subject period must be placed in an interest bearing account

- A. Prepare separate **DETAIL NUMBER** for applicable monies to be withheld. Project office assigns Item Number
- B. Note on signature page of estimate the Detail Number and amount to flag Controller's office to place monies in escrow account

- C. When retention period is over, release monies, note on estimate signature page Detail Number and amount to be released.

8. SUBMITTAL

- A Prepare estimate the week following closing Saturday. Submit the approved estimate to the Construction Division within two weeks after the closing Saturday.
- B. Send copy of “unclosed” estimate to Contractor for review
- C. Close estimate if Contractor accepts quantifies, or
 - 1. Correct documentation and project accounting after Resident Engineer reviews and approves Contractor’s requested corrections, then close estimate
- D. Check “Total Work to Date”. Prepare a [Form C-118](#) - Schedule of Funds Required (SOFR) when the total original contract amount overruns
 - 1. An SOFR may be needed for more than one estimate
 - 2. Determine amount of additional funding required by adding together
 - a. Overrunning amounts of Original items
 - b. Change Orders increasing original contract amount
- E. Fax closed, signed estimate to Construction Division - 965-4328 with
 - 1. Cover sheet [Form C-109](#)
 - 2. Copy of SOFR [Form C-118](#), if needed
 - 3. Copies of stockpile invoices, calculation sheets, Resident Engineer’s certification of stockpile materials (ask Joyanna)
- F. If Construction Division doesn’t verify receipt within 24 hours, call 965-4110 to verify fax was received

9. PARTIAL RETENTION RELEASE

[Standard Specifications 01282 Part 1.13](#)

- A Project is 95% complete and
 - 1. Contractor’s submittals are current (Civil Rights, Payrolls, Certifications)
 - 2. Contractor submits written request for retention release with
 - a. Written approval from Surety
 - 3. Fax estimate with Contractor’s request and Surety’s consent to Construction Division
 - 4. Do not release retention if time over runs or there are possible claims, accidents or legal actions which may effect full payment of contract retention

10. OCIP DEDUCTIONS/DEDUCTIBLES

- A Deductions are automatically taken in PDBS Project Accounting
- B. Make Deductibles.

10.14 FHWA-47 Form Preparation (Fed. Aid projects greater than \$1,000,000.00 and on the National Highway System)

1. PROJECT IS 90% COMPLETE
 - A Federal Aid Projects -FHWA-47 ([Example B-19](#)) (FHWA-1273, Section VI, 1 through 2)
 1. Send copy of instructions on back of form
 2. Contractor is responsible for all subcontractors' reports
 3. Contractor submits combined report when project is 100% complete
 4. Use applicable Metric or English FHWA-47 form
 - B. Project Office completes data for Card A - 1 & 2 on Form FHWA-47
 1. Urban is Salt Lake, Utah, and Davis Counties. Remaining Counties are Rural.
 2. Do not complete Construction Type Codes
 3. Date Started - First day work started on project
 4. Length of Project - Established in ' Notice to Contractors' or the 'Proposal' in the Special Provisions of the Contract
 5. Date Completed - Project is 100% complete when all site work, including all punch list items, are finished
 6. Final Construction Cost - Final dollar amount paid to Contractor
 7. Total No. of Bridges - (Over 20 feet)
 8. Check Labor Hours and Gross Earnings - Total Labor Hours divided into Gross Earnings should equal or be greater than, the lowest wage classification worked on the project.
 9. Check Items 4 through 29, following instructions on back of form against final estimate quantities
 - a. Item 22 – Final Contract Amount for Signs covers permanently installed signs. Do not count Construction Signs, as they are used on more than one project.
 10. Determine Contractor's profit
 - a. Add # 3, "Gross Earnings" and # 4, "Total Cost of all Materials and Supplies". Divide by # 2, "Final Construction Cost".
 - b. If percentage of profit is unrealistically high or low, a written explanation is required from Contractor

10.15 FINAL ESTIMATE CHECK LIST

1. PROJECT IS 90% COMPLETE, START CHECKING TO VERIFY REQUIRED DOCUMENTATION IS IN FILES
 - A. Files
 1. Required certifications for meters, scales and materials
 2. Lab reports, correlation reports, rice tests, target letters, mix designs
 3. Payrolls and all supplemental corrections
 4. Current and correct Trainee registrations
 - a. Final [Form C-138](#) Monthly Training Report (Total hours should equal the ledger amount)
 5. Force Account Change Order Itemized Statement with all [C-104's](#), material invoices and all supporting documentation
 - a. Force account change orders for non-federal aid projects require certified payrolls
 6. Fully executed change orders
 7. Price reduction calculations with notification form [C-106](#) for non-specification materials
 8. Incentive/Disincentive payments/deductions are documented
 9. Certified paid invoices for all stockpile payments
 10. Minutes of Preconstruction Meeting
 11. Preconstruction Approvals
 - a. CPM Progress Schedule
 - b. UDOT Storm Water Pollution Prevention Plan
 - c. Traffic Control - [Standard Specification 01554](#)
 - d. Suppliers & Material Sources
 - e. List of Subcontractors
 - f. Environmental Clearances
 - g. Training Commitment Letter
 - h. D.B.E. Commitment Letter (PDBS Civil Rights)
 12. Weigh tickets
2. FINAL DOCUMENTATION
 - A Check
 1. Calculations
 2. "Verify By", "Check By" signatures
 3. Quantity placement dates
 4. Explanation notes are signed and dated
 5. Items are cross referenced
 6. Bid Item number, complete Bid Item description, and applicable Change Order number referenced are on all pages

7. All stockpile payments are deducted
 8. Items 'not used' and eliminated by Resident Engineer are documented, with explanation of elimination
 - a. Enter field book and page number in ledger
3. LEDGER CHECK
 - A Run ledger
 1. Check ledger entries against source documentation
 2. Check all Change Orders against ledger
4. PROJECT IS 100 PERCENT COMPLETE
WHEN FINAL INSPECTION IS HELD AND ALL PUNCH LIST ITEMS, WARRANTY, ESTABLISHMENT & EVALUATION PERIODS ARE COMPLETE AND ALL DOCUMENTATION REQUIRED BY THE CONTRACT HAS BEEN RECEIVED PER [SPEC. 00555 1.12](#).
 - A. Resident Engineer submits final estimate within 30 calendar days from date project is 100% complete to Region Contract Specialist.
 1. Submit project even if required Contractor documentation has not been submitted
 2. Region Contract Specialist will charge time against Contractor if documentation still missing when Region review is complete
 - B. A written explanation submitted to Contract, Estimates & Agreements Manager is required when combined time exceeds 60 days.
 1. Resident Engineer final processing time is 30 calendar days
 2. Region Contract Specialist final processing time is 30 calendar days.
5. FINAL PAPERWORK
[Form C-197](#)
(Clip all documents in order as listed on C-197. Do not staple)
 - A Contractor's Documentation - Federal Aid Projects
 1. Federal Form FHWA-47
 2. D.B.E. Certification. **Refer to Bid Conditions Section 7 (J)**
 3. Certificate of Receipt & Release - Required if Contractor uses private pit for any material placed on any project - [Standard Specifications 01455 Part 1.3 - 1.5](#)
 4. Buy American Certification - [Standard Specifications 01455 Part 1.13](#)

- B. Resident Engineer's Documentation
1. Submit all Monthly Status of Contract Time (Progress Reports) - with signatures & dates (reports generated by Project Accounting)
 - a. Time charge disputes must be resolved
 2. List Field Book Numbers to Archive
 - a. Books/diaries with information that may effect future construction, or have information regarding claims, accidents/legal actions
 - b. Region Contract Specialist will stamp listed books "Archive"
 3. Contractor Performance Report
[Refer to Web form \(C119\)](#)
<http://www.dot.utah.gov/index.php?m=c&tid=338>
 - a. Recommend all project personnel be involved in completing evaluation
 4. Final Inspection Report
[Form C-190](#)
 - a. Attach memo, subject "Data Relative to Time Overrun" with explanation of time overrun with
 1. Recommendation to assess liquidated damages or
 2. Reasons for not assessing liquidated damages
 - b. Attach memo subject "Unresolved Claims"
 - b. Update Claims Folder in PDBS
 5. Materials Certification - [Form C-196](#)
 - a. Submit original to Region Lab
 1. Attach documentation for all price reductions to certification
 - b. Submit copy with final estimate
 6. Post Construction Conference Report - [Form C-199](#)
 - a. Refer to MOI, Chapter 1 [Section 109 \(B\)](#) and [Appendix 1-B](#)
 - b. Scheduled within 30 days after completion of project
 - c. Agenda
 1. Constructive comments about design (build ability) of project

2. Completeness and accuracy of plans and specifications
 3. Final pay quantities and schedule for processing final estimate
 4. Resolve problems/claims/contract time and possible liquidated damages
 5. Punch list items
 6. Contractor required documentation
 7. Non-specification materials price reductions
 8. Contractor Performance Evaluation (refer to web form C-119)
<http://www.dot.utah.gov/index.php?m=c&tid=338>
 9. Project Crew evaluation Form C-201
7. Final Estimate
 - a. Submit unclosed estimate to contractor and Region Contract Specialist for approval
 1. When estimate is approved, close final estimate
8. "As Constructed" Plans
 - a. On Plan Sheets, make changes in red ink to bid items, including change orders
 - b. Registered Professional Engineer stamps and signs title sheet of plans with the following statement "I hereby certify these "As Constructed Plans" are correct."
9. Project Ledger
 - a. Print ledger
 1. Check against original source documentation and estimate
 - b. Submit Signature sheet (Form C-114)
10. Transfer of Materials & Equipment Form R-5
 - a. Complete if equipment or material is salvaged from project and delivered to UDOT, or
 - b. Materials or supplies are purchased from Contractor by a Change Order
 - c. Resident Engineer and Operations Engineer sign R-5
 1. One copy to Operations Engineer and one copy with Form C-197

11. Field Books
 - a. Total number of field books, including commercially or manually bound
12. Project Diaries
 - a. Total number of project diaries, including Resident Engineer's diaries
 - b. If [Form C-111](#) Inspector's Daily Report, is used, list file number in which the reports are filed
13. Explanation of Overruns/Underruns
 - a. Project Accounting generated Statement of Overruns/Underruns determines items requiring explanations
 1. Exceeding 1% of original Contract Amount,(only required if amount exceeds \$15,000) including Change Orders
14. Original Weigh Tickets & Books
 - a. All commercial and state tickets are submitted with project final
 1. If state tickets are used, but the whole ticket book is not used,
 - a. Remove project ticket copies from weigh book, staple together by material types, and put copies with project files
15. Survey & Spreadsheet Disks
 - a. Submit all project computer disks

10.16 UDOT CONSTRUCTION CONTRACT CHANGE ORDERS

Change Orders are required but not limited to, any of the following existing conditions: Specification change, change of condition, changes in D.B.E. commitment, extension of contract time, changes in site condition, additional work that must be completed by the contractor that cannot be tied to an original bid item, a value engineering proposal that will change the price of the contract, overrun or underrun of the contract according to [Standard Specification 00570 Part 1.2](#), [00725 Part 1.4 - 1.6](#), and [01282 Part 1.1 - 1.12](#)

Prepare change orders to be self-explanatory. The approving authorities are not familiar with the aspects of the work as the Resident Engineer is and must understand the intent, governing specifications and cost analysis with a minimum of individual research.

Completed attachments, cost analysis, authorization to proceed and any other documentation applicable to the change order must be attached to the change order sent to the approving authorities.

No Change Order work will be started unless there is an approved copy of the Change Order in the project files; with the following exception: in case of an **emergency** requiring the work to be started before the Change Order could be written and signed, an Authorization to Proceed ([Form C-107](#)) can be prepared. The Authorization to Proceed form must be verbally approved and signed in accordance with [Policy and Procedure 08B-10](#) before work begins. This form will show an estimate of the anticipated costs involved. Care should be made to make certain the estimate is as accurate as possible. The Authorization to Proceed form does not eliminate the need to prepare a Change Order, and it must be attached to the Change Order through the approval process.

An emergency is: Work that cannot wait because of possible damages occurring to other parts of the contract, workers in the area or the public.

Change Orders are processed following the guidelines set forth in the Stewardship Agreement between the Utah Department of Transportation and the Federal Highway Administration. UDOT has the responsibility to **approve Change Orders on stewardship** and **recommend approval for non-stewardship projects**. This approval or recommendation determines if the Change Order is **Federal participating** or **Federal non-participating**. Change Orders on non-stewardship projects are approved by the FHWA. Non-stewardship projects are denoted with an **asterisk (*)** prior to the project number.

Written approval is required from the Region Construction Engineer (Stewardship Projects) or Federal Highway Administration (Non-Stewardship Projects) prior to proceeding with any change or extra work which would alter the terminal, scope, or character of the project; or work that would fall into the “**major category**”, except in emergency or unusual situations as provided in 23 *CFR* 635.120(b).

1. In addition, the following types of changes or extra work are to be considered **major**, requiring Region Construction Engineer or FHWA approval or authorization to proceed before the work begins:
 - A Revisions in geometric design (alignment, and/or grade) which affect the design speed, require additional right-of-way, change the structural design of a major structure, or increase/decrease the cost of a major contract item by more than 25 percent of the item.
 - B. Revisions of pavement structural section.

- C. Revisions in conflict with approved standards.
 - D. Revisions involving addition, deletion, or relocation of bridges.
 - E. Any change requiring additional right-of-way or a revision in controlled access, including changes to median openings. On uncontrolled access projects, changes in access locations will be considered minor as long as the change does not violate the UDOT's Regulations for the Control and Protection of State Highway Rights-of-Way.
 - F. Any changes related to type or quality of materials to be furnished and incorporated into the finished project.
 - G. Any changes in specifications or specified method of processing.
 - H. Revisions, which will affect safety or operation of traffic.
 - I. Changes which will result in any feature of design or construction which may be contrary to the intent of the Environmental Impact Statement or alter any feature which may have influenced the actual content of the EIS.
 - J. Any change resulting in adjustment of unit bid prices or agreement to perform work by force account methods; except,
 - Adjustments in negotiated unit prices of items specifically covered by approved Standard Specifications
 - Any change and/or extra work that does not exceed a total cost of \$25,000 and does not come under the above definition of "major".
2. **Minor changes**, should be handled by Change Order. Region Construction Engineer (Stewardship) and FHWA (Non-Stewardship) approval is required, but may be obtained after the work has been completed.
3. Requirement of 23 *CFR* 635.120(f), "Proposed changes and extra work involved in nonparticipating operations that may affect the design or participating construction features of a project shall be

subject to review and concurrence by the division administrator". When this occurs, provide the information to the Federal Highway Administration.

- A Work such as construction of a maintenance stockpile, which does not affect Federal-aid participating features would be outside, of this requirement. However, an informational copy of the Change Order should be transmitted to the FHWA.
4. Changes similar to those discussed in f, g and j above which constitute deviation from the scope and intent of the specifications, will not be approved unless at least one of the following conditions is satisfied:
- A The project cannot reasonably be constructed as specified.
 - B. A substantially equal product can be obtained at a savings to the project.
 - C. A superior product can be obtained at the original contract prices.

Use the following guidelines in the preparation and submission of Change Orders. Prior to preparing the Change Order, the Resident Engineer will discuss the intent, scope and estimated cost of the required extra work with the Project Manager.

UDOT CONSTRUCTION CONTRACT CHANGE ORDER

(Form C-100)

1. Enter the project number(s), location, contractor's name, Change Order number, charge ID number and contract date in the appropriate places at the top of the form.
 - A Indicate all project numbers and the location on the Change Order as they appear in the original contract.
 - B. The contract date is the date on the Notice to Proceed letter.
2. Enter the **Group, Alpha and Originator Codes** (Figure 10-1) that best describe the reason for the Change Order. These codes are used to track and analyze the cause for Change Orders.

3. If the work performed under the Change Order requires an extension of contract time, enter the extended time in the **working days** or **calendar days** box.
 - A Provide justification to support the time extension on Attachment A, [Form C-101](#).
4. **Contract Monies Allocated to Date** boxes, enter the **original contract amount** and the **current contract amount**.
 - A The current contract amount is the original contract amount plus all approved Change Orders to date, including the one being submitted. Assume the one being submitted is approved until notified otherwise.

FIGURE 10-1

ALPHA CODE DESIGNATION OF CHANGE ORDERS	
GROUP 1	ANTICIPATED SUPPLEMENTAL CONTRACT WORK
A	Assist. to State (Test Piling, Fill Settlements, Surveying, Test Borings)
B	Overruns/Underruns
C	Disadvantaged Business Enterprises (FHWA Program)
D	Environmental Controls (Erosion/Biotic Protection)
E	Railroad Inspection & Flagging
F	Research Projects, Product Testing and Reviews
G	Right-of-Way Obligations (Utilities/Driveways/Walls, Etc.)
H	Temporary Traffic control (Signs, Signals, Flagging, Striping & Detours)
I	Miscellaneous Minor Supplemental Work (As Listed in Detailed Estimate of
J	Partnering
GROUP 2	GENERAL ADDITIONS/DELETIONS/ADJUSTMENT
A	Management Decisions/Policy Revisions/Project Accelerations
B	Changes/Revisions in Standard Plans & Details
C	Hydraulics/Drainage Changes
D	Landscaping Changes, Including Irrigation
E	Product/Materials Specification Changes
F	Roadway Structural/Geometric Revisions
G	Roadway Lighting/Signals/Graphics
H	Structure Revisions
I	Miscellaneous Adjustment of Costs/Time Accrued Interest on Uncontested Delayed Payments

	Change in Asphalt binder Content Adjustments for Price Index Fluctuations Liquidated Damages
GROUP 3	UNFORESEEN OCCURRENCES/DIFFERING SITE CONDITIONS
A	Accidents/Spills & Hazardous Materials
B	Acts of Nature (Rain, Storms, Floods, Earthquakes, Etc.)
C	Buried Man-Made Objects/Underground Utilities
D	Constructed Embankment/Fills/Slope Failures
E	Regulatory Agency Requirements/Actions
F	Termination of ContractStandard Specifications, 108.10 or 108.11
G	Unanticipated Geotechnical Conditions
GROUP 4	DIFFERENCES/CONFLICTS IN THE CONTRACT DOCUMENTS
A	Right-of-Way Delays
B	Design Error/Omission/Conflict
C	Specification Error/Omission/Conflict
D	Construction Error/Omission Conflict
E	Inadequate Traffic Clearances (Vertical/Horizontal)
GROUP 5	SETTLEMENT OF CLAIMS AND DISPUTES
A	Interpretation of Specifications
B	Interpretation of Plans/Drawings
C	Contract Time
D	"Changed Conditions"

E	Delays in the Work
F	Negotiated Board of Review/Arbitrator Settlements
GROUP 6	COST REDUCTION INCENTIVE PROPOSALS/ALTERNATIVE DESIGN
A	Structures Design
B	Traffic/Roadway Geometrics
C	Roadway Design, Drainage, Etc.
D	Materials & Material Sources
E	Construction Procedures
F	Temporary Traffic Controls, Detours, Falsework Openings

ORIGINATOR CODE DESIGNATIONS (Division/Section/Position that could have taken some action to prevent need for Change Order)			
1	Design(UDOT/Consultant)	8	Construction Division
2	Traffic	9	Local Government
3	Structures	10	Consultant
4	Materials	11	Contractor
5	Right-of-Way	12	Environmental
6	Resident Engineer	13	Utilities
7	Maintenance	14	Project Manager

5. Check the appropriate basis of payment box that applies to the Change Order.

A Original Contract Unit Price is _marked when the items and unit prices included in the Change Order are in the original contract.

- B. Agreed Unit Price is marked when the items in the Change Order are not found in the original contract.
 - 1. If the agreed unit price exceeds 10% of the previous year's Average Unit Bid Price, an independent cost analysis must be completed by the Resident Engineer to justify the agreed unit price. Do not use the cost analysis submitted by the contractor in place of a Resident Engineer's independent cost analysis.
 - 2. Bid abstracts, prices used on another project or Change Order can also be used to justify the agreed unit price.
 - C. Force Account is check marked when the work being performed is to be done on an actual cost basis.
 - 1. Use when the Contractor and the Resident Engineer cannot agree on a basis of payment or an agreed unit price
 - 2. Contractor & Resident Engineer will prepare independent cost analysis' to be used for negotiating an equitable and reasonable unit price
 - 3. When negotiated unit price is less than \$5,000.00, unit of measure will be Lump Sum
 - a. Agreed Lump sum amount must be within 10 percent of Resident Engineer's cost analysis or
 - 4. Force Account method will be used for payment
 - D. Specification Change is check marked when a change in the contract specifications, plans or Department standards is needed to perform the work of the Change Order.
6. Enter the following information:.
- A All items are required to complete the work.
 - 1. Items not included under the original contract should carry the item description as shown in the Standard Specification, Supplemental Specifications, Special Provisions or previous year's Average Unit Bid Prices when possible.

- B. Estimated quantity for each item listed.
 - 1. Show decreases in brackets (\$0.00).
- 7. Unit of measurement for the item(s) listed.
 - A. Enter the agreed upon unit price for the item(s) listed.
- 8. The form will automatically calculate the extension of amount increase/decrease.
- 9. The contract's total net dollar changes will calculate automatically.
- 10. The Resident Engineer will fax a copy of the Change Order to Project Manager, Region Construction Engineer, and Local Governments (when applicable) prior to obtaining the contractor's approval. Change orders do not need to be faxed to the FHWA prior to the Contractors approval, but Major changes need prior written approval of the FHWA Construction Engineer (Non-Stewardship Projects)
 - A The Project Manager, Region Construction Engineer, and Local Governments Project Manager will review the Change Order in a timely manner to determine if it is in accordance with the contract, funding, Standard Specifications and contains adequate documentation to support the change. They will verbally notify the Resident Engineer of their findings and recommendations.
- 11. After receiving verbal approval to proceed, the Resident Engineer will obtain the signature from the Contractor's authorized representative on two Change Orders, with their official title and date.
 - A The Contractor may make a copy of the Change Order. They should be informed the copy is for record keeping purposes only and no work on the Change Order can begin until approval is given by the Resident Engineer.
- 12. If there is Local Government involvement, the Resident Engineer will obtain the signature and official title of their authorized representative. [Form C-199](#)

13. The Resident Engineer will approve the Change Order if the amount is <\$25,000 by placing a _ mark in the Approved (Up to \$25,000) box. If the amount is >\$25,000 or a specification change, the Resident Engineer will place a _ mark in the Recommended for Approval box, sign and date two Change Orders.
 - A. When the Resident Engineer “approves” the Change Order, the work can begin and payments made to the Contractor. The Resident Engineer forwards the two originals of the Change Order to the Project Manager.
 - B. When “Recommended for Approval” by the Resident Engineer, two originals are forwarded to the Project Manager. NO WORK COVERED BY THE CHANGE ORDER IS TO START UNTIL THERE IS AN APPROVED COPY IN THE PROJECT FILES.
14. The Project Manager will forward the Change Order to the Region Contracts Specialist. The Region Contract Specialist will make the required record and check the Change Order for supporting documentation and mathematical accuracy.
 - A. Upon receiving the Change Order, the Region Contracts Specialist completes and maintains the Region Change Order Record. When they have verified the Change Order has acceptable supporting documentation and is mathematically correct, they date and initial the Change Order. If the Change Order does not have sufficient documentation to support the change or is not mathematically correct, it is returned to the Resident Engineer.
 - B. The Region Contract Specialist will contact Program Development for State and Federal-aid projects when the accumulated total of all Change Orders is >\$100,000. The Region Contract Specialist will place a check mark in the Program Development box indicating the contact was made and funds are available.
15. The Region Contract Specialist will obtain approval from the Region Operations Engineer for all Contract Maintenance projects. The Region Contract Specialist will place a _ mark in the Region Operations Engineer box indicating the contact was made and funds are available.

- A. The Project Manager will sign and date the Change Orders on the line provided, "Recommended for Approval" and forward to the Region Director through the Region Contract Specialist. If the Change Order is for a Specification Change, forwards the Change Order to the Region Construction Engineer through the Region Contract Specialist. Refer to step N below if the Project Manager has been delegated by the Region Director to approve change orders.
- 16. The Region Director/Project Manager signs and dates the Change Order and returns it to the Region Contracts Specialist.
- 17. The Region Contract Specialist obtains approval (participating or non-participating) from the Region Construction Engineer for Stewardship Projects or the Federal Highway Administration for Non-Stewardship Projects.
 - A. When all required signatures are obtained, the Region Contract Specialist forwards one original executed of the change order to the Contracts, Estimates and Agreements Manager and one original executed to the Resident Engineer.
 - B. The Resident Engineer forwards the original executed to the Contractor.
- 18. The Contracts, Estimates and Agreements Managers makes the necessary record and retains the original executed in the project files.

NOTE: If any approving authority disagrees with or does not understand the Change Order, it will be sent back to the Resident Engineer for further explanation and justification.

ATTACHMENT A

(Form C-101)

Attachment A is completed and attached to the Change Order.

- 1. Enter the following information:
 - A. **Change Order number..**

1. Make sure the Change Order number and the number on Attachment A are the same.
- B. **Number of pages** associated with Attachment A (1 of 1).
 1. If Attachment A is more than one page in length, place the appropriate page number on the top of each page.
2. **Project number(s)** and **location** as they appear in the original contract.
 - A. Detailed explanation of **reason(s) for the Change Order**.
 1. Remember, anyone reading this explanation should be able to understand why this change was necessary.
3. A **cost analysis** is required for **Agreed Unit Price** Change Orders when the unit price, of the item(s) exceed 10% of the previous year's Average Unit Bid Price or when the change requires the work to be performed by Force Account. Examples of two acceptable methods of preparing a Cost Analysis are shown in [Figure 10-2](#) and [Form C-103](#).
 - A. If a cost analysis is **not required** for an Agreed Unit Price Change Order, place the following statement in this section: **"Unit price(s) are within 10% of the previous year's Average Unit Bid Price(s)"**.
 - B. A cost analysis for an Agreed Unit Price change can also be justified by comparing the unit prices with other projects. Use contract bid abstracts or reference to other projects or approved Change Orders for similar type work.
 - C. When using a Cost Analysis, attach support/justification of the hours used for labor and equipment. Also documentation to support materials costs.
4. If the Change Order requires a **contract time adjustment**, write a detailed explanation justifying the change.
 - A. Address extensions of contract time when they occur, do not wait until the end of the project.
 - B. Document all individuals **coordinated with** for the Change Order. This will include **names, titles** and **dates** of the discussion.

ATTACHMENT B**(Form C-102)**

Attachment B is required when there is a change of specification. It must accompany the Change Order through the approval process.

1. Place the **Change Order number** in the space provided at the top of the form.
 - A Make sure the Change Order number and the number on Attachment B are the same.
2. Enter the **number of pages** associated with Attachment B (1 of 1).
 - A If Attachment B is longer than one page in length, place the appropriate page number on the top of each page.
3. Enter the **project number(s)** and **location** as they appear on the original contract.
4. If there is not a Standard Specification with the requirements to rectify the problem addressed on the Change Order, a Special Provision is written by the Resident Engineer on Attachment B.
 - A Special Provisions are project specific and should not be used from project to project unless very similar situations exist and a Change Order has been prepared and approved.

AUTHORIZATION TO PROCEED WITH EXTRA WORK**(Form C-107)**

Form C-107 is used to obtain the necessary approval to proceed with extra work when time does not permit use of normal procedures due to an **emergency situation**. This procedure does not eliminate the need for processing a Change Order. The Change Order should be prepared within two weeks from the date the Resident Engineer signs the C-107. Attach the C-107 with original signatures to the Change Order.

1. The Resident Engineer should print out copies of the form and carry it with them at all times. When an emergency occurs requiring extra work, the Resident Engineer should complete the form by hand.
2. Data to be entered in each block of the form is self-explanatory. The information entered under “**Nature of and Reason for Proposed Revisions**” should be as detailed as possible and will normally be sufficient to support the Change Order when submitted.
3. **Verbal approval** is required from the Project Manager before proceeding with the emergency work. Also, if it is a major change, **verbal approval** is required from the Federal Highway Administration for Non-stewardship projects and Region Construction Engineer for Stewardship projects.
4. **Written approval** is required from the Region Construction Engineer (Stewardship Projects) or Federal Highway Administration (Non-Stewardship Projects) prior to proceeding with any change or extra work which would alter the terminal, scope, or character of the project; or work that would fall into the “**major category**”, except in emergency or unusual situations as provided in 23 *CFR* 635.120(b).

COST ANALYSIS or ITEMIZED STATEMENT

(Form C-103 (short form))

(Form C-103A (Long Form))

A **Cost Analysis** is used to justify unit prices exceeding 10% of previous year's Average Unit Bid Price or to estimate the cost of performing additional work on a force account basis.

An **Itemized Statement** is used to document the completed work performed on a force account basis.

To complete a Cost Analysis or Itemized Statement: Use Form C-103 (short or long), which will automatically calculate line items and totals.

NOTE: When preparing these forms refer to the Standard Specifications and Special Provisions for the Contractor's markup for **Labor** (60 percent), **Material** (15 percent), and **Equipment** costs (no markup unless rented or leased) or prime Contractor's markup for **subcontracted work** (10 percent for the first \$5,000 and 5 percent for the balance in excess of \$5,000).

Form C-103 - Cost Analysis (for estimating cost of work for items exceeding 10 percent of the previous year's average bid price or work to be accomplished on a Force Account basis)

1. Place a _ mark in the **Cost Analysis** box.
2. Enter the **project number**, **location** and **Contractor's name** as they appear in the original contract.
3. Enter the **Change Order number**.

LABOR:

All labor, including direct supervision used in the actual and direct performance of the work, will be paid at the rate of wage (or scale) agreed upon in writing before beginning work.

For Force Account Work, the Contractor will be reimbursed for actual cost paid to, or in behalf of workers, including subsistence for travel allowances, health and welfare required by collective bargaining agreements or other employment contract generally applicable to the classes of labor employed on the work. An amount equal to **60 percent** of the sum of the above items will be paid to the

Contractor to cover the cost of bonds, insurance, taxes, etc. The Contractor's payroll and cost records can be inspected and audited by the Resident Engineer.

1. Enter the following information:
 - A. **Classification(s)** for all required workers (estimated/ actual to complete the force account work.
 1. Make sure the classifications are correct for the type of work to be performed and in agreement with the wage decision for the contract.
 - B. Appropriate **pay rate** for each classification as established in the wage decision for the contract.
2. Appropriate **fringe benefits** for each classification as established in the wage decision for the contract.
 - A. Estimated/actual **regular hours** of work for each classification.
 1. Regular hours are defined as: Hours worked from the beginning of the workweek up to 40 hours.
3. **Overtime hours** in the box provided.
 1. Hours worked over 40 must be approved by the Resident Engineer and are paid as overtime.

FIGURE 10-2
Form 103

Page 1 of

(X one) Cost Analysis		or Itemized Statement		C103 Revised 5/03			
Project No.:	S-0994 (7)			Change Order No.:	5		
Location:	From Cloudy Ridge to Shingle Creek			Charge ID No.:			
Contractor :	John Doe Contracting			Contract Date:			
Labor: (Use Wage Rates of Contractor, if applicable)				What is C103 For:			
Name	Classification	Pay Rate	Frng	Reg Hours	O/T Hrs	Amount	
Randy Sample	Operator, Tire Backhoe	15.89	5.68	40		862.80	
Jim Ware	Operator, Grader	16.48	5.91	31.5		705.29	
Labor Costs (Plus 60% per contract provisions. Refer to Standard Specifications)							
MATERIALS: (Attach invoices or weigh tickets)							
Description	Invoice or Tickets	Quantity	Unit	Rate	% Tax	Amount	
Season Gravel Product	82856 (Partial)	200.48		30.00	0.00	6,014.40	
Materials Cost (Plus 15% per contract provisions. Refer to Standard Specifications)							
Equipment: (Use Dataquest Rental Rate Blue Book: Note - Hourly Rate = Monthly Rate/176)							
Equipment Designation		Standby Calculations			Operating Calculations		Amount
Description	Yr	Ownership Rates	Hours Standby		Operation + Ownership Rates	Hours Operated	
Backhoe/loader – John Deere	96	2370.00					
Mobilization Cost (For Equipment not already on project. Refer to Standard Specifications)							
Equipment Costs							
Subtotal (Labor + Materials + Equipment)							
If Subcontract add 10% for the first \$5,000 and 5% for balance in excess of \$5,000. (place x)							
Grand Total =							

Note: Cost Analysis - attach to Change Order

Itemized Statement - attach all supporting documentation and submit with final estimate

NECESSITY FOR WORK:
(Refer to Attachment A)

4. To calculate the **labor amount**, use this formula:

$(\text{base rate} + \text{frng.}) \times \text{reg. hrs.}) + (\text{base rate} \times 1.5 \times \text{O/T hrs}) + (\text{frng.} \times \text{O/T hrs.})$

- A. Total each line item and the total amount column.
- B. 60 percent is added to the total amount as per section [01282 Part 1.6](#) of the Standard Specifications.

MATERIALS:

All materials accepted by the Resident Engineer and incorporated into the project will be paid at the actual cost including sales taxes and transportation charges plus **15 percent**.

- 1. Enter the following information:
 - A. **Description** of the estimated/actual materials.
 - B. Estimated/actual **quantity**.
- 5. **Unit of measurement**.
 - D. Estimated/ actual **rate** of payment.
- 6. Appropriate **sales tax** percentage.
- 7. To calculate the materials amount:
(quantity X rate) + sales tax
 - G. Total each line item and the **amount** column.
 - H. **15 percent** is added to the total amount as per section [01282 Part 1.7](#) of the Standard Specifications.

EQUIPMENT:

Contractor owned equipment (*excluding small tools) authorized by the Resident Engineer will be paid for by using the latest edition of the **Data Quest Rental Rate Blue Book for Construction**.

*Small tools are defined as tools generally costing less than \$400.00.

The equipment rates require adjustments by a **Regional Factor** and a **Depreciation Factor** found in the front of each section in the Rental Rate Blue Book.

Equipment rental rates can fall in the following two categories:

1. **Operating Rate** - The hours the equipment is actually in use. Includes ownership and operating cost. Adjust for depreciation using Rate Adjustment Table and Region using the Regional Adjustment Maps.
2. **Standby Rate** - Compensation for equipment required to be at the work site but not operating. Includes ownership costs only. This rate will be 50% of the adjusted ownership cost computed in the previous paragraph. The duration of allowable standby time is to be approved in writing by the Resident Engineer with a maximum of 8 hours per day or 40 hours in a normal workweek.

When the “**Manufacturer’s Rated Capacity**” falls between those shown in the Rental Rate Blue Book, the closest will be used. Do not interpolate for the rates between.

A Enter the following information from **Equipment Rental Rate Manual**.

1. **Section and Page.**
2. **Revision Date.**
3. **Equipment Designation.**
4. **Year** (From Contractor or check the serial number on the equipment).
5. **Capacity/Horsepower.**
6. **Fuel Type.**
7. **Regional Factor** (Found in front of each section)
8. **Depreciation Factors** (Found in front of each section)
9. **Hourly Rate** (Monthly rate/176)

10. **Attachment Rate** (Monthly rate/176)
 11. **Operating Cost**
 12. Total each line item and the **amount** column.
 13. Add **Mobilization Cost** for equipment not already on the project. Refer to [Standard Specifications 01282 Part 1.8.](#)
- B. **Subtotal** labor, materials and equipment.
3. Add percentage for **subcontracted work** per [Standard Specifications, 01282 Part 1.10.](#)
- A. **Grand Total** for labor, materials and equipment.
- Form C-103 - Itemized Statement (for documenting the actual work performed on a force account basis).**
- A Place a check mark in the Itemized Statement box.
- B. Enter the **project number, location** and **Contractor's name** as they appear in the original contract.
4. Enter the Change Order number.

WEEKLY FORCE ACCOUNT COST REPORT

([Form C-104](#))

Form C-104 is required in connection with all work accomplished on a Force Account basis or for documenting work involving a possible claim. The record of work must be completed daily by the assigned Inspector. Using the information from form C-104 complete the itemized statement, form C-103 (See section COST ANALYSIS or ITEMIZED STATEMENT Page 38)

LABOR:

Specific attention must be paid to the “**Actual Job Classification**”. This should reflect the actual type of work on which the personnel are doing on the Force Account work. This will then be checked against the Contractor's payrolls to insure the workers received at least the minimum rate of pay commensurate with the work they were performing. Hours worked must agree with the contractor's payroll. All rates of pay in excess of the minimum set forth in the contract wage

decision or collective bargaining agreements for the type of work being accomplished must be specifically justified and approved by the Resident Engineer. For example, the Contractor may find it convenient to use an employee in a higher wage classification to temporarily serve as a laborer or truck driver during the course of some of the Force Account work and continue to pay the higher wage rate during this period. The wage rates **agreed** to in writing by the Contractor and the Resident Engineer prior to the start of work will govern the wage rate by which the Contractor will be reimbursed for this type of work and not necessarily the wage rate paid the employee. Wages in excess of the going rates should be paid only upon approval of the Resident Engineer; otherwise, regular wage rates will be used as a basis for paying the Contractor.

MATERIALS:

Only pay for Materials required and directly used in conjunction with Force Account work.

EQUIPMENT:

Only pay for equipment required and directly used in conjunction with Force Account work. Equipment rental rates used will be those set forth in the current Equipment Watch Rental Rate Blue Book for Construction. Any other rates will be, approved by the Construction Division. Equipment used should be based upon need rather than convenience. The Contractor should be reimbursed on the basis of equipment available on the project site during the course of construction. For example, if the Contractor chooses to use a 6 cu. yd. front-end loader because it is standing idle when a 3/4 cu. yd. front-end loader would have been as effective, the lower rates should be used. It is better to agree in writing prior to the start of work as to the type of equipment to be used and reimbursement will only be for the size of equipment actually required and available at the construction site.

The use of a pickup truck by a Foreman or Superintendent is considered normal when the work being done is an ordinary contract item. When Force Account work is being done, the use of a pickup truck is limited to involvement in the Force Account work. Payment for equipment is based upon necessity to complete the work and not having equipment at the work site that is not actually performing a portion of the work. In the event the individual to whom the truck is assigned must utilize the vehicle to properly supervise the work due to the area involved, or to haul materials to be incorporated into the work, then payment is justified. If the vehicle is required to standby in the event it is needed to go for materials, etc., then payment on a standby basis would be appropriate.

However, where the total work is at one location and the pickup is driven to that location and parked while the work is accomplished, payment is not justified. The exception to this would be where the individual must travel to the location of

the work for the sole purpose of performing Force Account work and the individual driving the vehicle would not have been on the project except for the Force Account work. In these cases, payment for the period the vehicle was in travel status could be justified as well as on a standby basis during the period work was being performed. The **exercise of sound judgment** will reduce the cost of doing the work and still properly reimburse the Contractor for work completed.

Upon completion of the Weekly Summary of Force Account Work, [Form C-104](#) is to be signed with the titles and date by the State Inspector and the Contractor's representative. These properly executed forms then become a permanent document supporting Force Account work. The forms are bound and submitted with the final estimate.

Any changes on these forms, which affect the final pay amount will be initialed and explained either on the face of the form or on the reverse side when additional space is required.

10.17 REQUEST TO SUBLET

([Form C-115](#)) - [Example Appendix B-21](#)

1. Contractor completes all Contractor and Subcontractor information
2. Contractor numbers the requests starting with number 1
 - A. Requests are numbered consecutively, including 2nd and 3rd tier subcontracts
3. Contractor submits one copy with original signatures to Resident Engineer
4. Resident Engineer checks request for,
 - A. Accuracy of information
 - B. Correct Bid Item Number and Bid Item Description
 1. Contractor will describe 'partial' work subcontractor will be doing in the "Item Description" section
5. PDBS System is used to calculate the percent of subcontract
 - A. New items added to project by change order that are subcontracted do not have percent calculated
 - B. Remove from appendix

CERTIFICATION FOR FEDERAL-AID PROJECTS

([EXAMPLE APPENDIX B-20](#))

1. Contractor completes all information

2. Contractor is required to complete the "Contractor Certification" section for all subcontracts, including 2nd and 3rd tier subcontracts
3. C-115 and C-116 with original signatures are submitted to Project Office

SUBCONTRACT REVIEW - FEDERAL-AID PROJECTS

1. Project Office ensures compliance by randomly selecting 1 out of 10 subcontracts, minimum of 1 per project and requests a complete copy of subcontract with all attachments from the selected subcontractor
2. If C-116 required attachments are missing
 - A. Verify with the subcontractor that copies of all attachments were sent
 1. If they were, have subcontractor send a complete copy of subcontract with all attachments
 - B. If attachments are missing
 1. Request 2 or 3 more subcontracts, with all attachments, from other subcontractors to review
 2. If attachments are **still** missing, notify Contractor subcontracts are not in compliance and do one of the following:
 - Request documentation that all subcontractors have received the required attachments
 - Request 3 complete copies of all subcontracts with original signatures and all attachments be submitted to the project office for approval
 3. Inform the Contractor that step 2.B.b will have to be followed on all future UDOT projects if they do not comply with C-116 certification

Appendix A – Abbreviations

ABMD	Abandoning/ment	BLM	Bureau of Land Management
ABUT	Abutment	BMB	Bench Mark (Elevation)
AC	Asphalt Cement	BP	Balance Point
ACQ	Acquisition	BR	Base of Rail/Bridge
ADJ	Adjacent/Adjusted	BS	Back Sight
ADV	Advertise	BTWN	Between
AGG	Aggregate	BUR	Bureau
AGMT	Agreement	C	Celsius
ALIGN	Alignment	C	Circular Curve/Cut
ALT	Alternate	C-C	Center Cut
AMDT	Amendment	C&G	Curb & Gutter
ANG	Angle	C-I	Center Island
APP	Approach	CAP	Corrugated Aluminum Pipe
APPLA	Application	CB	Catchbasin
APPROX	Approximate	CBR	California Bearing Ratio
APPU	Appurtenance	CEM	Cement/Cemetery
APR	Apron	CES	Concrete End Section
ASSOC	Association	CG	Cattle Guard
ATT	Attention/Attorney	CHAN	Channel
AUTH	Authority	CHG	Change
AVG	Average	CIP	Cast Iron Pipe
AZ	Azimuth	CLR	Centerline
B&C	B&C Road Funds	CL	Clear
BAL	Balance	CM	Center of Mass
BC	Brass Cap	cm	Centimeter
BDRY	Boundary	CMP	Corrugated Metal Pipe
BEG	Begin/Beginning	CMPA	Corr. Metal Pipe Arch
BIT	Bituminous	CO	Company

COMM	Commission	DR	Drive/Drainage
CONC	Concrete	DRWY	Driveway
COND	Condition	DWG	Drawing
CONN	Connection	E	East/External
CONST	Construction	EBL	East Bound Lane
CONTD	Continued	EL	Elevation
CORFD	Corner Found	EMB	Embankment
COR	Corner	ENGR	Engineer
CPEP	Corrugated Polyethylene Pipe	ENT	Entrance
CPM	Critical Path Method	EO	Edge of Oil
CR	Creek	ER	Edge of Road
CS	Curve of Spiral	ESMT	Easement
CSP	Corrugated Steel Pipe	EST	Estimate/Estimated
CU M	Cubic meter	EW	East-West/Edge Wash
CU Mm	Cubic millimeter	EXC	Excavation
CUL	Culinary	EXC FS	Excavation for Structure
CULT	Cultivated	EXP	Expansion
CULV	Culvert	EXT	Extension
D	Degree pf Curve	F	Fill/Flow
DEP	Departure	F&I	Furnish and Install
DES	Design	FA	Federal Aid
DG	Ditch Grade	FAC	Facilities
DI	Drop Inlet	FAI	Federal Aid Interstate
DIFF	Difference	FAP	Federal Aid Primary
DIST	Distance/District	FAS	Federal Aid Secondary
DIV	Division	FAU	Federal Aid Urban
DL	Daylight	FC	Found Corner

FD'N	Foundation	H/W	Half Width
FE	Field Entrance	H ₂ O	Water
FED	Federal	HDWL	Headwall
FG	Finish Grade	HI	Height of Instrument
FH	Fire Hydrant	HORZ	Horizontal
FHP	Forest Highway Project	HSE	House
FHWA	Federal Highway Admin.	HT	Height
F _L	Flowline	HW	High Water
FL	Floor/Flume	HWY	Highway
FP	Fence Post	HYD	Hydrant
FR	Frontage Road	I	Interstate
FS	Foresight	I.P.	Iron Pipe
FTG	Footing	ICL	Incorporated City Limit
FUR	Furnish	IMP	Improvements
FWD	Forward	INC	Incorporate
FY	Fiscal Year	INCL	Included/Inclusive
g	Gram	INL	Inlet
GALV	Galvanized	INPL	In Place
GEN	General	INST	Install/Instrument
GDR	Guard Rail	INV	Invert
GL	Grade Line/Gradient Line	JCT	Junction
GLO	Government Land Office	JT	Joint
GR	Gravel/Grade/Grade Rod	Km	Kilometer
GRB	Grub	KPH	Kilometers per Hour
GW	Guy Wire/Ground Water	L	Length of curve/Liter
H&M	Hub and Marker/Tack	LAT	Latitude
H	Haul	LG	Lip of Gutter

LIC	License	O/H	Overhead
LL	Liquid Limit	O/C	Overcrossing
LN	Lane/Line	O-O	Outside to Outside
LS	Land Surveyor	O-D	Origin and Destination
LSE	Lease	O.REV	Office Revision
LT	Lift	OBLIT	Obliterate
LW	Low Water	OUT	Outlet
M	Ma. Offset (Vert. Curve)	P.I.	Point on Intersection
M	Middle Ordinate/Meter	PAV'T	Pavement
Mg	Milligram	PC	Point of Curvature
Mm	Millimeter	PCC	Point of Compound Curve
MAG	Magnetic	PCTB	Portland Cement Treated Basecourse
MAS	Masonry (End of Curve)	PDR	Preliminary Design
Mat'L	Material	PE	Preliminary Engineering/Project Engineer / Professional Engineer
MED	Median/Medium		
MEMO	Memorandum		
MES	Metal End Section	PL	Plate/Plastic Limit
MH	Manhole	POC	Point on Tangent
MISC	Miscellaneous	PP	Power Pole
ML	Match Line/Median Line	PPM	Policy & Procedure
MON	Monument	PR	Power/Planning Report

N/A	No Access/Not Applicable	PRC	Point of Reverse Curve
		PROJ	Project
N	North/Non	PROV	Provision
NBL	North Bound Lane	PS&E Plans, Specifications & Estimates	
No	Number		
NW	Northwest/Normal Water	PI	Plasticity Index
PCCP	Portland Cement Concrete Pavement	SHDR	Shoulder
PT	Point/Point of Tangency	SHT	Sheet
Q	Discharge in C.F.S	SLBM	Salt Lake Base & Meridian
QUAL	Quality	SOV	Shut off Valve
QUAN	Quantity	SP	State Project/Special
R	Radius	SPEC	Specification
R/W	Right of Way	SPK	Spike
RCP	Reinforced Concrete Pipe	SPQ	Summary Pay Quantities
RET.W	Retaining Wall	Sq m	Square meters
REV	Revised/Revision	Sq Km	Square Kilometers
RK	Rock	SR	State Road
RP	Reference Point	ST Street/State/Steel/Spiral Tangent/Stucco/Stone	
RT	Right/Rout		
RR	Railroad	STA	Station/Stadia
S	Shoulder Line	STD	Standard
S	South/Slope	STK	Stake
S.D.	Small Ditch	STRUCT	Structure/Structural
S&G	Sand & Gravel	SUPER	Super Elevation
SALV	Salvage	SURF	Surface

SAN	Sanitary	SVY	Survey
SAR	State Aid Road	SW	Southwest/Sidewalk
SBL	South Bound Lane	SYS	System
SC	Spiral Curve/Section	TAN	Tangent
SCP	Section Concrete Pipe	TB	Top Bank
SE	Southeast	TB	Treated Base
SEC	Section	TEMP	Temporary
SG	Sub-Grade	TL	Toe Ledge
TOPOG	Topography	VAR	Variable
TP	Telephone Pole/ Turning Point	VC	Vertical Curve
		VEH	Vehicle
TPL	Top Ledge	VIT	Vitrified
TR	Tree/Trench/Track	VPI	Point of Vertical
Ts	Tangent to Spiral/Tangent	W	West / Water Moisture
TS	Top Soil/ Toe of Slope	WBE	Width Bottom of Exc.
TWP	Township	WBL	West Bound Lane
U/P	Underpass	WRD	Wildlife Resources Div.
UNADJ	Unadjusted		
US	Federal Route / United States = US	WT	Water Table / Weight
		X-RD	Crossroad
USF & G	U.S. Fish & Game	X-Sec	Cross Section
USFS	U.S.Forest Service	Xing	Crossing
USGS	U.S.Geol. Survey	Xover	Cross Overs
UTIL	Utilities		